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Pyorrhœa in the Dog.

By HENRY GRAY, M.R.C.V.S., Kensington.

I am bringing this disease before your notice for consideration because it is one of the commonest maladies of the dog. It occurs to a lesser extent in the cat, and is not rarely encountered in the fox and other wild carnivora in confinement. In consequence of its causation and effects having a resemblance to the same disease in man, it should prove not only of great scientific and practical interest to the veterinary surgeon, but also to the medical man.

It has been publicly stated by a distinguished man of science that the veterinary profession holds medical science in the hollow of its hand, so I hope we shall endeavour to justify that statement. This disease, like rickets, osteomalacia, *ossium fragilites* and other so-called deficiency maladies, gives us an opportunity to elucidate it, and if, through lack of interest or by taking a too narrow view of our position in medical science, we lose that opportunity as we have lost and are losing in other directions, we must not complain if we do not obtain greater scientific recognition.

We have the advantage of studying our animals from birth to extreme old age over several generations and in the end of making *post-mortem* examinations without much hindrance. In consequence of this we have the means of observing and studying their maladies so as to enable us to trace back remote effects in later life to causes in earlier life.

How many medical men are there who can claim that privilege with their patients?

In the study of this disease in the short-lived dog we have a field in which we can enrich medical science in general, not only for the benefit of the dog, but also for that of his master.

This is one of the many diseases primarily due to lack of use. In this age of bacteriological activity we are too apt to overlook the primary or predisposing cause—*causa verans*—of many diseases and put it down to the actually secondary or bacterial invasion.

Use, exertion or exercise within proper limits, plays a great part in nutrition and thus in the prevention of many diseases. It increases functional activity and creates resistance. The form, texture or dimensions of the dog's food plays a much greater part in increasing the functional activity of the dog's mouth and in its resistance to pyorrhœa than does its chemical composition.

Pyorrhœa, also termed periodontal disease, Riggs' disease, suppurative periodontitis, or alveolitis or receding gum, is never seen in carnivorous animals using their teeth in a natural manner. This is well borne out by those carnivora living in a state of freedom, and in the domestic dog and cat, cutting and tearing raw flesh, breaking or crunching bones, and using their teeth in ratting, rabbiting, etc.

The use of their teeth in reducing food, tearing or breaking roots, hardens the soft structures of the mouth, raises their resisting and secreting functions, and wears down the teeth and keeps them clean even when they have obtained the natural span of life. There is no bad breath, no spongy or reddened gums, which remain homogeneous all over the gingival surface; no tartar collects; the teeth have a glistening primrose colour and are not loosened, even though they may be worn down to the gum. Such dogs are rarely affected with gastric or intestinal disturbance, nor subject to swollen anal glands to block the lumen of the anal ring; their fæces are hard and chalk-like, and the appetite is keen for food suitable to their nature.

What do we find in the case of pet or house dogs in towns where they are confined to stuffy rooms for the greater portion of the twenty-four hours, fed two or more times in twelve hours with cooked, chopped up or pappy food—especially of a starchy nature—given dainties in the form of sweets, sugar, pastry, tea and coffee, soups and gravy, but denied, or only occasionally, or rarely given tearing or breaking material to use their teeth upon? Such animals, if they live long enough, have pyorrhœa to the extent of 100 per cent. Their misguided owners create great suffering, produce innumerable occasional complaints and a miniature cesspool, which is ever surrounding their dogs' teeth. These people generally profess undying love for their pets or companions and would not, if they knew they were causing them suffering, continue to feed their dogs in such an irrational manner.

The incidence of this disease progresses with age and decreases with the increased size of the animal, but it is not generally well marked before middle life, and forthwith the teeth begin to fall out, or they become so loosened that their extraction is demanded, In many breeds, however, the first signs of the disease appearing are seen in animals not having yet reached the age of two years. By the time they reach the age of nine or ten years they become toothless; either by the teeth falling out or being removed.

Pyorrhœa is frequently associated with a collection of tartar on the teeth, but this may be absent. Both conditions are an indication that the animal is not using his teeth as Nature intended him to use them. The effects of soft food may, however, be averted by other compensatory means, such as is seen in dogs used for ratting or rabbiting, when they use their teeth for cutting or tearing roots, removing stones or bricks when burrowing. Flesh on bones given fairly regularly will also mitigate or prevent its evil effects. An occasional use of the teeth will not prevent the condition.

Very old dogs, after having escaped the disease by using their teeth for many years, may develop it when subsequently fed on soft food and denied material upon which they can use their teeth in later life.

The animal first shows a narrow red line (a redness much deeper in colour than the normal pinkish tinge of the other portions of the gingival membrane) on the alveolar border at the junction of the gum with the teeth; it often appears very much swollen, especially between the teeth, where it bulges or is prominent; it generally bleeds at the slightest touch, and if a fine probe or spatula be passed between it and the teeth, a pocket or a separation from the neck of the tooth is found. The ulcerative process starts in the periodontal membrane, between the neck of the tooth and the alveolus, and is maintained or kept up by the accumulation of particles of food in the small separation, which subsequently becomes progressively deeper and wider, collecting larger quantities of food and purulent secretion as time goes on, until the tooth becomes loosened or is removed or, not infrequently, is allowed to fall out. During this process the decomposition of food and secretion causes the disgusting putrid odour resembling that of a cesspool to be given off from the mouth.

In the majority of instances the gum and alveolar processes undergo inflammatory atrophy and recede as the disease progresses down the periodontal membrane and thus exposes the portion of the rootshaft of the tooth denuded of the periodontal membrane. This uncovered part of the root has a greenish or blackish appearance, with a roughish or uneven surface. In other cases there are no apparent atrophic changes of the gum or alveolus, the tooth on simple inspection appearing to have a normal relationship with the gum. This is very deceptive, for on passing a spatula or probe it will be found that there is a pocket even the depth of an alveolus with complete detachment of the root. Where a tooth has more than one fang or asp, one root may be normally fixed in the alveolus and the other or others separated partially or completely from the alveolar wall. Sometimes the external wall of the alveolus is wanting, thus exposing the whole length of the external face of the tooth root, while the internal wall is normal and adherent to the internal face of the tooth root.

In many of the robust breeds, such as the collie, setter, pointer and retriever, there is very often great resistance to the infective process invading the periodontal membrane. This is evidenced by the hypertrophic changes found going on in the alveolar walls and in the gum, which becomes thickened and bulging from the lateral surfaces of the jaw bones for the depth of an inch or more below, and sometimes from one-eighth to a quarter of an inch above the necks of the teeth, almost the whole length of the dental arcade. There is very little, if any, separation, but there is hypertrophic periostitis and ostitis and, in the case of the gum being raised above the neck of the teeth, the exposed portion appears shorter than usual.

The disease attacks the incisors earlier than it does the other teeth, the precarnassial and carnassial come next, then the third, second and first molars, and lastly the canines. But this order of attack varies a great deal in individual dogs.

The odour given off from the pockets is often so offensive as to cause nausea in an attendant holding a dog so affected during the time the teeth are being extracted. Sometimes the accumulation of tartar is so great as to act as a veritable gag and prevents the jaws properly closing, and to encase the tooth and hide it from view. Such an accumulation may reach the size of a walnut and when every tooth of the molar and premolar arcade is encased in such a manner a veritable wall of tartar is formed, resembling indeed, a stone wall. Not infrequently some such teeth are completely loose and are held in position only by the wall of tartar or by the teeth of the opposing jaw.

It is the completely loose tooth which generally causes a disturbance to the dog, making him appear, by the chattering or snatching movements of his lower jaw on the upper jaw, as if he had got a piece of bone or other foreign body between his teeth.

The secondary results of this affection are often serious and, to the clinician, of great interest. First of all there is a chronic form of septicæmia with extreme emaciation and total loss of appetite. This may be accompanied by a gangrenous ulceration of the buccal mucous membrane in contact with the teeth. Next in importance come the frequent attacks of gastritis or gastro-enteritis, occasional sickness or diarrhœa. Then we may have a bi-lateral or, occasionally, a mono-lateral empyæma of the antrum of Highmore with the resulting sub-orbital abscess and fistula; or, recurrent hæmorrhage from the soft tissues around the base of the tooth; nasal catarrh or hæmorrhage from the apex of the root of a loosened canine perforating the floor or outer wall of the nasal channel and, when the offending tooth is removed, the resulting oro-nasal fistula; bi-lateral keratitis of the vascular and pigmentary types; iritis; chronic pharyngitis; bronchitis and even pneumonia; certain persistent skin diseases; spinal pachymeningitis or spinal neuritis (often mistaken for muscular rheumatism); articular rheumatism, etc.

Accidental and even operative wounds in other parts of the body surface often become infected in pyorrhœa. Most, if not all, of these conditions rapidly disappear after extraction of the offending teeth, and when the animal is rendered toothless they may never return and he is often said to be in a better state of health than he has been for years. This shows in a marvellous manner that by removing the cause the effect will cease. Some dogs that are toothless live to a very great age—sixteen or more years.

The alveolar pocket is a weak spot, with infective material in it. A depressing cause, such as a chill, draught, or a bath in inclement weather, or when the wind is in the N. or E., or N.E., lowers the general defensive system and then there is a bacterial invasion or toxic absorption into the blood stream, and thus we may get general or local secondary affections. In the latter case, one part or organ with a lowered resistance may form a nidus for infection or a selective spot for the toxin to react on.

We must distinguish this disease of the mouth from those acute gangrenous or necrotic conditions of the gingival membrane and underlyiug bone forming the alveoli, and also of the in-contact buccal membrane—especially that part of it which comes in contact with the free surface of the teeth— associated so frequently with outbreaks of distemper in young dogs and also with outbreaks of typhus in adult or aged dogs. These are generally rapid in their appearance and short in their course, whereas pyorrhœa is an insidious, persistent and chronic malady ending in shedding of the teeth.

Pyorrhœa may, however, be in evidence prior to an attack of distemper or typhus and, in consequence, may give rise to acute gangrenous ulceration of the softer parts in contact with the affected teeth and also set up necrosis of the bone entering into the formation of the alveoli during the course of the acute contagious disease. The usual method of treating this disease, by scaling the teeth, removing the loosened teeth or those with exposed or separated roots, and using a mouth wash, may palliate its effects or, to a certain extent, check its progress, but will not cure or prevent it.

The only or rational treatment is its prevention by allowing or causing the dog to use its teeth in a natural manner as soon as possible after weaning or at any rate after it has completed its second dentition. Even though a dog may use his teeth and wear them down to old age, if given soft food and no longer allowed to use his teeth, he may develop pyorrhœa around the stumps or shortened teeth. Dogs that are always fed properly and use their teeth naturally all through life have clean teeth, bright gums and sweet breath. Feeding dogs on unsuitable food creates a vicious circle. The teeth of the dog are designed for the purpose of gripping, puncturing, cutting, tearing, crushing or crunching. He has somewhat rudimentary salivary glands, but large mucous glands; his stomach is very capacious, but his intestine is small; he requires food only *once* at the most in twenty-fours, and he is a flesh and bone-eating animal.

He does not masticate his food, but reduces it to such proportions that he can conveniently bolt it. By feeding him not more than once in twenty-four hours his appetite is sharpened and his mouth and stomach and intestinal glands become active. Given suitable food, he tears or crunches it, and in doing so, makes a demand on his teeth and glandular system. The coarser his food the stronger his digestion becomes.

Overfed, improperly fed on food unsuitable to his nature, his appetite becomes fastidious, his digestion impaired, pyorrhœa sets in, and in course of time the circulatory system, liver, kidneys, and even his respiratory system become involved in the vicious circle; he suffers untold misery, becomes a wandering cesspool in miniature, loses his teeth, has frequent attacks of sickness or diarrhœa, anal irritation or obstruction due to catarrh of the anal glands, which become swollen, etc.

Is this disease of the dog communicable to man? There is no reliable evidence to lead us to suppose that it is transmissible to man or from man to the dog. It is quite true that a very great number of dog-owners do have pyorrhœa, but that should not cause surprise since both feed on the same principles and often on the same food, and not infrequently out of the same plate. A man who is ignorant or careless in regard to feeding himself would be as ignorant as to how to feed his dog. Neither use their teeth as Nature intended. It is not the fault of the dog, for he is not generally permitted to use or develop his instinct, which would enable him to prevent himself much suffering and misery.

Conventional man scoffs at Nature and does nearly everything he can possibly do to oppose her. But she does not take kindly to being snubbed or mocked; she is relentless in her revenge, not in a slipshod fashion, but with mathematical precision and determination. The preacher illustrates this by saying: "As you sow, so shall you reap"; which the scientist interprets as cause and effect. If man had not stifled the development of his instinct or knew or was taught how to feed from childhood up to old age, he would not be troubled with pyorrhœa, nor would he allow his dog to suffer from it. The modern education permitted by our muddle-headed State does very little to enlighten citizens how to prevent misery; seemingly, it prefers to keep them in ignorance, on which to enable an ever-increasing great class of parasitical men to subsist. One of our functions is to prevent animal suffering and to conserve the health of the domestic animals, and we can do a great deal in this direction, so far as dogs are concerned, by enlightening their owners as to the way of feeding them so as to prevent pyorrhœa. After that, the responsibility becomes theirs. So much for civilisation or domestication versus Nature.

(*To be continued.*)

Distemper Research Committee Appointed.

As has already been announced, the Medical Research Council have undertaken to organise an investigation into dogs' distemper, towards which funds will be provided by the *Field* Distemper Council. Researches will be conducted by members of the Medical Research Council's staff, partly at the National Institute for Medical Research, Hampstead, but more particularly at their new farm laboratory, for which a site near London has recently been acquired. As opportunities arise and suitable assistance can be secured, inquiries co-ordinated with these will be promoted at other centres of work. These investigations will also be brought into relation with other studies in human and animal pathology.

The Medical Research Council have appointed the following scientific committee to advise on the subject and to direct the investigations:—

Sir William B. Leishman, K.C.M.G., C.B., F.R.S., Director of Pathology, War Office, and a member of the Medical Research Council (chairman); Mr. J. B. Buxton, F.R.C.V.S., Captain S. R. Douglas, F.R.S., National Institute for Medical Research, Professor F. Hobday, C.M.G., F.R.C.V.S., and Dr. C. J. Martin, C.M.G., F.R.S., Director of the Lister Institute.

Other members may be added later as the programme develops. A member of the Council's staff will act as secretary to the committee, and communications upon any scientific questions should be addressed to the Secretary, Distemper Research Committee, 15 York Buildings, Adelphi, W.C. 2.—*The Times.*

The Thoroughbred and Hunter Show.

Although lacking the cosmopolitan attractiveness of the International, the annual show of the Hunters Improvement and National Light Horse Breeding Society provokes a more vitally patriotic interest. For it is held in conjunction with the Ministry of Agriculture (acting on behalf of the War Office), and with its well-being is bound up in no small degree that of a still indispensable part of the military machine.

As was pointed out by the Prince of Wales (who is this year's President) at the annual meeting, it is one of the country's paramount concerns that the Society is safeguarding in "striving to see that the supply of remounts—well bred horses of a hunting type, on short legs and of moderate height—shall never fail."

Despite the fact that the Ministry of Agriculture, King's Premiums and Super-Premiums aggregate £18,900, it is essential that the pre-war standard of premiums which at present prevails should be materially raised if the greatly to be desired increase in the number of thoroughbred stallions is to be achieved.

With regard to the stallions exhibited, there was greater variety than has been seen in recent years, and for a reason which is full of promise for the future, there being 24 new horses, and amongst them several with much to admire, while eight of last year's entrants which had failed to materialise on the former occasion showed up now—and showed up well.

The example set by the old favourites at the previous week's show at the same venue was emulated by Gay Lally, who successfully resisted the challenge of the new—and of all other—comers in the contest for the Champion Challenge Cup. This feat has now been performed by the beautifully turned Compton Stud animal for the fourth year in succession.

The display of hunters was eminently satisfactory in comparison with last year's exhibition, a hopeful sign being that the judges experienced much greater difficulty in separating the young classes than was the case on the former occasion. These classes contained many animals built upon true hunter lines.

The gulf which separates promise and performance was, however, amply illustrated in the jumping classes, when the place of level quality was taken by a noteworthy division into excellent and a good deal worse than moderate. One would wish to have seen a far higher representation of the stocky type, modelled on the lines of, for instance, the compact animal that carried Mr. Foster's 14 stone round without a pause or a touch.

We have, perhaps, in the rearing of a short-legged, weight-carrying hunter an answer to the recently-asked question: "Is there any possibility of reviving the old interest in light horse-breeding and re-starting the district committees for carrying on work locally?"

The breeder could pin his faith upon such a type and thus weight in his favour the scale now sadly elevated to his detriment by the recent and proposed cavalry reductions.

With such Royal interest as was evinced at this Show and backed also by the hunt-supporting farmer of the Prince's commendatory reference, the future of light horse-breeding may be brighter than the adverse factor of a reduction in military requirements would lead one to assume. Certainly the very considerable difficulty in placing the entrants for the young classes may be indicative of a revival in hunter breeding.

The show will, in any event, be memorable to one small group of veterinary students present on the opening day. They had just time to spring clear when, at the first jump, a horse landed in the corner near the rails and hit the side of the ring, to roll with his rider over the adjacent boards. Fortunately no one was hurt as the result of this alarming but spectacular mishap.

London Firm's Show Success.

At the recent Shire Horse Show Messrs. Mann, Crossman and Paulin, Ltd., for the selection of whose animals Mr. W. S. King, M.R.C.V.S., is responsible, exhibited two singles, two pairs and two teams of three, and were 1st and 3rd in the singles, 1st and 2nd in the pairs, and 1st and 2nd in the teams. There were 36 entries in the singles, 12 entries in the pairs, and 4 entries in the teams, and in the final for the Champion Gold Medal the firm's horses stood 1st, 2nd, 3rd, 4th, and 5th.

The Veterinary Record.

10th March, 1923.

THE DISTEMPER COUNCIL.

We are glad to learn that the Veterinary Profession is to have adequate representation on the Scientific Committee of the Medical Research Council, as will be seen from an article on this subject which we publish in this issue.

Mr. Buxton is to have absolute control of all research work in connection with the enquiry, and we understand that he will be glad of the assistance of veterinary surgeons throughout the country. We are assured that the whole work will be carried out by, and will be entirely in the hands of, members of our profession.

This appears to us to be eminently satisfactory. We can now freely commend the fund to all our members and we hope it will have the whole-hearted support of the profession generally.

To this end we are ready to open a *Veterinary Record* Distemper Fund, and shall be glad to receive any subscriptions or donations, acknowledging them and forwarding them in due course.

Facts about Horse Breeding.

A recent bulletin from an agricultural Experiment Station in the United States gives particulars of some researches directed to obtain data on the breeding of foals in order to prevent the losses due to failure of conception or easily preventable diseases in the mare. In the course of the report some interesting facts are disclosed. The trial was made with 34 mares (Percherons, half-bred Percherons, and pure Hackneys) and it was found that the gestation period varied between 316 and 361 days, the average being 333 days. The duration of the gestation period was on the average 4 days longer for colts than for fillies, the average for the former being 335 days and for the latter 331 days. The average weights of 66 foals at birth was a little over 52·2 kg. or 114·8 lbs., the 33 colts weighing 115·9 lbs., and the 33 fillies 113·7 lbs. The average weight of 67 foals in May of the year following their birth was 759 lbs. or about 7½ cwts., and their average weight when they completed their second year was 1097·81 lbs., or nearly 10 cwts. This shows a decreasing rapidity of growth, which was still more accentuated at the end of the third year, when the average weight was only 1267·2 lbs. or a little over 11 cwts. When the weight at birth was subtracted, it was found that the foals had gained 1152·8 lbs. in 3 years, of which 640·2 lbs. had been put on during the first year. The conclusions drawn from these figures are that it is of importance to insure the rapid growth of the animals from the beginning, and that growth during the early stages of a foal's life is not only more rapid, but obtained with the consumption of less food.

The Alternative.

It will be generally accepted as an obvious principle that a thoroughly efficient and well-organised Veterinary Profession, able to keep abreast of modern developments in science, is vital to this country on national and economic grounds.

It will have to be conceded that, at present, there is a great deal of inspired and influential opinion that the Veterinary Profession is neither efficient nor organised for the country's needs.

The leading article of *The Times*, to which reference was made in the *Record* last week, clearly and unmistakably draws our attention to the necessity for reform.

The present policy of our Royal College of Veterinary Surgeons, if persisted in, will inevitably widen the gulf now existing between themselves and those who think differently, but, at the same time, are well-wishers of our profession.

What scheme, then, would be acceptable to the profession at large, the Government, and those seeking our services?

This latter group, well represented on the Development Commission, in whose hands the useful employment of a large sum of money from the Imperial Exchequer has been placed, do not consider they are justified in granting sums to the present colleges.

Wherever these men are met they invariably give expression to their disapproval of our educational system.

Clearly then, the difference is purely an educational one, and it is to this subject that any scheme of reform would have to direct its main efforts.

First and foremost, without delay, we must raise the standard of our entrance examination, and for this purpose no less than the matriculation examination of our Universities is necessary.

The modern education of our boys, with the Montessori methods of the kindergarten, and the Dalton Plan for adolescents, ensures those boys likely to make a success in any profession being able to take the matriculation at the age of sixteen or seventeen years.

In fairness to these candidates, we must offer them a degree of some one of our Universities *without* the at present concomitant Diploma of the Royal College of Veterinary Surgeons. At which school, then, shall these men profitably pursue their studies? There can be no doubt that our multiplicity of schools and colleges is a waste.

One good school, an integral part of a university, having its being within the walls, established as a faculty, with its professors having their induction into a Chair, would represent a tremendous saving in effort, material, buildings, and staff.

It is conceivable also that this association of the staff with university manners and standards would lead to a distinct improvement in tone and methods, which, judging by recent episodes, is sorely needed.

As these graduates of our University School came into the profession, they would automatically increase

the sum total of knowledge of the general practitioners. The ranks of the teachers could, with advantage to the students, be recruited from these men.

As internal or external examiners they would be far better fitted to judge of the capabilities of a student than our present examiners.

As research workers they would be trained and equipped to take their place as a cog in the wheel of scientific progress.

If our Royal College were to approach the Government with such a scheme, it is not improbable that public opinion would demand its acceptance and find the funds for its working.

Such a generous offer on our behalf would be sure to be met with generosity on behalf of the Government.

In the minds of many it is firmly held that this, and this only, has been the real reason why funds have not ere now been placed at the disposal of our profession.

It may be stated more definitely than this: that some amongst us even believe that until some such reform is instituted no grants of money from the Imperial Funds will ever be made.

J. R. Barker.

Obituary.

Major J. D. Edwards.

By the death of Major John Dennis Edwards, M.R.C.V.S., which has occurred at his residence, Rathduff House, Bansha, Tipperary, an outstanding figure has, says the *Morning Post*, been removed from Irish and English sporting circles. Major Edwards, who was in his seventy-second year, was born in County Wexford. He was a personal friend of King Edward, and while veterinary surgeon with the 10th Hussars was also a personal friend of the late Duke of Clarence. He served through the Afghan War in 1879-80, and was with Lord Roberts in the celebrated march from Kabul to Kandahar. After his retirement from the Service in 1898 he returned to England and took up training for himself and his brother, the late George Edwardes, of Daly's and the Gaiety theatres. Major Edwards trained Santoi for the Jubilee Stakes and the Ascot Gold Cup, and subsequently trained for Mr. James Buchanan (now Lord Woolavington) Mountain Apple and Golden Measure, both Ascot winners. About this time he made several visits to Ireland and purchased some useful horses, including Cassock's Pride, which won the Ebor Handicap, and Wavelet's Pride, which secured the Great Metropolitan Stakes. While in England he met with a serious motor accident, and was consequently compelled to retire from training for several years. This accident told much against him in his last illness.

Some sixteen years ago Major Edwards took over from the late Mr. P. F. Hartigan, the Rathduff training establishment at Bansha, County Tipperary, and there he bred and trained several very useful horses, among them Golden Melody and Lagos. During his career in the Army he won outright the 1st Life Guards Challenge Cup, and while in India he won the Grand Military Steeplechase at Umballa and other important races. Major Edwards was a wonderful rider and a fine judge of horses. His straightforwardness and courteous nature made him a fast favourite with all who knew him.

Association Reports.

National Veterinary Medical Association.

Quarterly Meeting of Council.

A quarterly meeting of Council of the N.V.M.A. was held on Friday, 5th January, 1923, at 10 Red Lion Square, when the following members signed the attendance book:—Messrs. H. Sumner (*President*), J. Willett, R. Hughes, F. W. Willett, S. H. Slocock, P. J. Simpson, F. Hobday, H. P. Hogben, S. H. Gaiger, W. Woods, J. F. Craig, J. W. McIntosh, G. P. Male, G. H. Livesey, H. L. Roberts, A. Gofton, J. McKinna, Professor G. H. Wooldridge, Sir Stewart Stockman, Dr. O. C. Bradley, and the Secretary.

Minutes.

The minutes of the two previous meetings, having been published, were signed as correct.

Correspondence.

The Secretary read apologies for absence from the following members:—Messrs. H. J. Dawes, H. G. Bowes, Wm. Scott, T. W. Lepper, T. M. Inglis, B. De Vine, J. S. Lloyd, A. W. Noel Pillers, J. Ewing Johnston, J. Clarkson, W. H. Brooke, and W. P. Stableforth.

A letter was read from the Federation of Medical and Allied Services regarding compulsory vaccination.

The Secretary read a letter from Mrs. Garnett stating that she was sending the Association some books for their Library.

The President: Arising out of the correspondence I have no hesitation in confirming the action taken regarding the signing of the form for compulsory vaccination, and I think you will agree that we should write Mrs. Garnett offering her our very sincere thanks for the books.

This was agreed.

Finance and Advisory Committee.

The Secretary read the following report of the Finance and Advisory Committee:—

A meeting of the Finance and Advisory Committee was held on the 5th January, 1923, at 10 Red Lion Square, when the following members were present:—Messrs. J. W. McIntosh (in the chair), J. W. Brittlebank, H. Sumner, F. W. Willett, G. H. Wooldridge, J. F. Craig, Dr. O. C. Bradley, and the Secretary.

The minutes of the previous meeting, having been published, were taken as read and confirmed.

Correspondence.

The Secretary read apologies for absence from the following:—Messrs. H. J. Dawes, B. De Vine, and J. Clarkson.

The SECRETARY also read a letter from Mr. Dawes, asking to be relieved of the office of Chairman, owing to the difficulty which he experienced in attending meetings.

It was resolved that Mr. Dawes's resignation as Chairman be accepted with regret.

The SECRETARY read a letter from the National Horse Association of Great Britain regarding the extent of the co-operation and financial support upon which they could rely from that Association.

It was resolved that affiliation with the National Horse Association be effected, and that the annual subscription of two guineas be paid.

EDITORIAL COMMITTEE.

The SECRETARY read the report of the Editorial Committee.

The PRESIDENT considered it a very satisfactory report, and thought the Committee was to be congratulated on its publication. The paper now being used was an improvement in appearance on the previous paper on which the *Record* had been printed. He inquired if there were any further suggestions to be made.

Mr. HOGBEN wished to know the position of veterinary inspectors at the present moment.

The PRESIDENT said it was quite satisfactory, but he was not in a position to say more at present. He thought the outcome of negotiations now in progress would mean that very definite steps would be taken in the near future.

ELECTION OF PROVISIONAL COMMITTEE.

The PRESIDENT suggested that a representative number of gentlemen in York and the surrounding district should be asked for their collaboration.

Mr. WOODS said that just before coming into the meeting he had been asked if he would put forward the suggestion that Harrogate would be more suitable for the annual meeting than York.

The PRESIDENT said that York had been agreed upon at Bath, although Harrogate was mentioned beforehand. It would mean calling a general meeting to alter the place for the annual meeting.

Twenty-four members were nominated to serve on the Provisional Committee, and it was agreed that they should be asked to serve.

STATEMENT BY THE GENERAL SECRETARY.

The GENERAL SECRETARY stated that owing to new duties which he was called upon to perform, he was reluctantly compelled to seek immediate relief from his official position as General Secretary and Editor, although he was prepared to devote as much energy as heretofore in an unofficial capacity. It was resolved that certain gentlemen be invited to accept the post of General Secretary and Editor, and that, pending their appointment, Mr. Buxton should be acting Secretary.

RESOLUTIONS.

From the West of Scotland Division.

1ST.—"That the Bill before Parliament in Lord Lambourne's name seeking power to further restrict the export trade in work horses to the Continent be opposed as unnecessary and unjust, owing to the present high standards prevailing and the efficient manner in which the trade is conducted."

2ND.—"That from the 'Exportation and Transit of Horses, Asses, and Mules Order of 1921,' the words 'and also be capable of being worked without suffering' be deleted, and that two classes of animals for export be established—(*a*) fit for work; (*b*) fit to ship without cruelty. Such animals to be branded and used for food within a stated period of arrival on the Continent."

Sir STEWART STOCKMAN suggested that no action be taken with regard to these; this was seconded by Mr. HUGHES and supported by Major HOBDAY. Agreed.

From the Royal Counties Veterinary Medical Association.

"That the Royal Counties Division request the National Veterinary Medical Association to appoint a Committee at once, to consider the charges to be made for inspecting cows under the 'Milk and Dairies Bill (1922),' so that there may be some uniformity in the fees."

Mr. MALE suggested that the Divisions be requested to send a delegate to constitute a Committee for the consideration of adequate fees and report to a special meeting of Council. This was agreed to.

The PRESIDENT, having a train to catch, apologised to the meeting, and Mr. Woods took the chair.

From the North of England Veterinary Medical Association.

"This meeting is of the opinion that the use of tuberculin is abused to the detriment of the Dairy Industry, and ask, that its sale be controlled so that it be supplied only to members of the Medical and Veterinary professions by authorised laboratories."

Mr. WOODS said this was the question which was under consideration by the members of the Special Committee appointed by the Association.

Mr. ELPHICK said he had been asked by the members of the North of England Association to attend the meeting that evening and carry the point. He said that at their last meeting in the North they had had a long and careful discussion on the "Milk and Dairies Act, 1922," and had concentrated on paragraph 5, section 1, which was practically the only section which re-acted on the veterinary profession. The resolution was passed after several members had stated their views on the control of tuberculin, and it was thought that unless the sale of this was controlled by the Ministry of Health, the tests made by the veterinary profession could not be relied upon. The evidence put forward by some members of the Association was that some farmers had unlimited supplies of tuberculin to work upon, and, as everybody knew in the profession, people who desired to upset the true test of the veterinary surgeon could make an injection prior to his arrival. This had been found out in testing pedigree stock which was going abroad.

He believed they were going to get the support of the Northumberland, Durham and the North

Riding of Yorkshire County Councils in the matter, also of the Shorthorn Breeders' Association.

The opinion was that the use of tuberculin was so abused that cattle which had not been tested could go to auction and fetch as much money as cattle that went in as having passed the tuberculin test.

They hoped they were going to have the whole-hearted support of the N.V.M.A. in the resolution they had passed. They thought that until the sale of tuberculin was controlled it would be impossible to carry out the "Milk and Dairies Act."

It was agreed that the resolution should receive the whole-hearted support of the N.V.M.A., and the Secretary was instructed to write to every County Council in Great Britain, also to the Secretary of every Division, and send them a copy of the resolution. A copy was also to be sent to the Ministry of Health and the Ministry of Agriculture.

The above resolution was proposed by Mr. J. WILLETT, seconded by Mr. H. L. ROBERTS, and carried unanimously.

Central Veterinary Society.

An ordinary general meeting of the Society was held at 10 Red Lion Square, Holborn, on Thursday, February 1st, 1923. The President, Captain A. E. Willett, occupied the chair.

The following signed the attendance book:—Messrs. J. Rowe, H. L. Roberts, R. L. Cornell, J. Willett, Professors J. Macqueen and G. H. Wooldridge, Colonel A. J. Williams, Majors P. W. Dayer Smith, F. G. Hobday, Captains F. J. Andrews, J. McCunn, O. S. Broadhurst, W. F. Widden, Hamilton Kirk, R. Bryden, and L. S. Balls, Messrs. J. W. McIntosh, G. H. Livesey, W. N. Thompson, H. Gray, E. L. Stroud, W. Perryman, C. H. Sheather, S. H. Slocock, F. H. Stainton, H. D. Jones, J. Seton, and J. F. Macdonald, *Hon. Secretary.*

Visitors.—Mr. W. Brown and Captain R. Daubney.

The minutes of the December meeting were taken as read and confirmed.

Apologies were received for non-attendance from the following:—Major-General Sir L. J. Blenkinsop, Colonel A. Smith, Major P. J. Simpson, Professor E. B. Reynolds, and Mr. G. Male.

CORRESPONDENCE.

A letter was read from Mrs. Wood thanking the Society for their expression of sympathy on the death of her husband.

The SECRETARY read a letter from Doctor Bradley drawing attention to the Royal (Dick) College Centenary celebrations.

Mr. J. WILLETT: I should like to propose something in regard to the letter which has been read in connection with the centenary celebrations of Dick's College. A good many members of this Society have graduated there, and I think members of this Society should help both individually and collectively, and I hope the Society will subscribe to the fund that is to be raised.

Mr. G. H. LIVESEY: As a graduate of Dick's College I should like to support the proposal put forward by Mr. Willett, and if the other Fellows of the Society are willing I think it would be a very good idea to ask the Council to consider favourably a grant towards the Centenary Fund.

Those Fellows in London who have been associated with Dick's College might like to form a small committee and help to raise subscriptions on behalf of this appeal.

It was proposed by Mr. WILLETT, seconded by Mr. GRAY, and carried, that Doctor Bradley's letter be referred to the Council for consideration.

Professor MACQUEEN: I think this letter ought to be read twice, because it seems to me that it has a deeper meaning than appears on the surface. I do not know what may be arranged to celebrate the centenary, but I see that a portion of the money may be devoted to establishing a scholarship; this might not be popular in England, but would be in Scotland where money is scarcer. (Laughter.)

With reference to a letter read advocating the restriction of the sale of tuberculin, Captain H. KIRK said that he was thoroughly in favour of restricting the sale of tuberculin and all other biological products, including anti-distemper vaccines, so that they could not be purchased by laymen.

Mr. H. L. ROBERTS: As a country practitioner I think I know what the Chairman is rather anxious to get at. Our experience is that farmers are supplied with tuberculin and dope their cows before veterinary surgeons are asked to test. The difficulty seems to be that we get indifferent results which do not occur in ordinary tuberculin tests, and it makes one suspicious that the animals have been injected with tuberculin by someone who is not a veterinary surgeon—it may be the owner. Of course it is difficult for us to bring it home to anybody, but it is putting obstacles in our way. If a concrete case could be obtained, it would strengthen our hands in advocating the restriction of the sale of tuberculin.

Mr. MCINTOSH also concurred in the view expressed by Captain Kirk.

ELECTION OF DELEGATES TO THE ROYAL SANITARY INSTITUTE CONGRESS.

Mr. G. H. Livesey, on the proposition of Mr. E. L. STROUD, and seconded by Mr. H. L. ROBERTS, was asked to represent the Society.

ELECTION OF FELLOWS.

Professor A. B. Mattinson, O.B.E., and Mr. W. Brown, of Welwyn Garden City, Herts., were unanimously elected Fellows of the Society.

CASES AND EXHIBITS.

Captain H. KIRK: Although I have brought two *post-mortem* specimens, I would like first to outline the particulars of two clinical cases which I have treated since the last meeting, each of which seems to have departed somewhat from the usual cases met with in everyday practice. The first case was

that of a fox terrier, aged about 20 months. It was admitted on a Thursday as a case of chorea following distemper. There were slight temporal twitchings, and the prognosis seemed fairly good. A course of strychnine was commenced. The same evening, when examining the dog, I failed to register any temperature, my thermometer showing apparently 92°. The animal was very cold and depressed, so I wrapped it in woollens and supplied hot water bottles for the night. The following morning, Friday, the temperature was still gravely sub-normal; respiration 9, and pulse 56; the animal was very quiet and nervous, and icy cold. When examined it would urinate and defæcate; it had no appetite, staggered when stood up, and stumbled when attempting to walk. I gave ammon. carb. as a stimulant (gr. x. in gelatine capsule) three times daily, in addition to the Easton's Pills, and after clipping the hair from the spine, applied a blister ointment. On Saturday morning I found the temperature still sub-normal, and I was worried at not being able to raise it. The dog was very submissive and quiet, and allowed itself to be fed with liquids. The recumbent position was always assumed, and when stood up, it struck a peculiar though rather characteristic attitude with its fore-legs crossed. If unsupported, it would sway, just like a suspension bridge.

At this stage I had come to the conclusion that I was dealing with a case of myelitis of lumbar origin. Late on Saturday night, being alarmed at the gravity of the patient's condition, and knowing it to be such a pet, I felt it my duty to get another opinion, and my nearest colleague, Mr. Willett, kindly came and saw it. He gave me no hopes. On Sunday morning the pulse, temperature and respiration were about the same, the body being stone cold. All response to pin pricks about the hind quarters had long vanished, and the case seemed like one of creeping paralysis. The crossing of the legs and inco-ordination were still very evident; and there was a greater loss of muscular power, with extreme lethargy. I gave a draught of spt. nitrous æther and aromatic ammonia. On Sunday evening the inevitable result—death—ensued, as one might expect with such a sub-normal temperature, although, whilst life lasted, I was prepared to carry on and try to bring him through.

Post-mortem revealed the following lesions:—Half of one lung showed œdema, being dark and full of fluid. The kidneys were hyperæmic; stomach and intestines acutely inflamed; two of the mesenteric glands showed congestion. I sent the skull and the complete spinal column to the laboratories of the Ministry of Agriculture, as Sir Stewart Stockman had expressed a wish to be supplied with these parts from all dogs dead of the nervous complications of distemper.

The next case was that of a West Highland terrier which was brought to me in consequence of a peculiar hard swelling situated half-way down the throat, and a little to the left. Upon manipulation it seemed to cause no particular pain, and could be easily moved about in spite of its dimensions, which were about an inch and a half in diameter. Deglutition had not been interfered with, and, as far as I could see, there was no sign of a foreign body; no cough, and no interference with respiration. The temperature, however, was rather surprisingly high at 106° F. I would not—in fact, could not—give any definite opinion as to the nature of the malady, but asked to be allowed to have the dog under observation and await developments. I at once gave tr. aconite and water; clipped the hair away from the part, and applied mustard oil. Next morning the temperature was reduced to 103° F., and the dog was eating well. The swelling was materially the same, so I next applied plain mustard and bound the neck up in cotton wool. In the evening the dog was very subdued, temperature 104° F., and the swelling much extended, both in an upward and downward direction. On the third morning the whole under-jaw was swollen, the œdema was extending around the eyes, and the case looked serious. Nothing could be found in the throat or elsewhere to account for it, but attempts at opening the mouth gave rise to much pain. During the day hot fomentations were applied, and renewed through the night. The next morning, Sunday, found the dog apparently in a lot of pain, and very quiet, with a temperature hovering about between 103° to 104° F. I found a spot which appeared to be more yielding than the rest of the swelling, and decided to open it. Although my knife penetrated for about three-quarters of an inch, little or nothing exuded. Later in the day, however, a serous fluid began to ooze, which really had the appearance of synovia. Poultices were continued, and as time went on more of the fluid appeared, and never became purulent at any time. On the following Tuesday the temperature was found up again at 104° F., although for two days it had been nearly normal. The cause of this was an abscess, which contained copious thin and blood-stained pus, on the off shoulder. The skin around the point of exit sloughed away, leaving a circular hole of about half an inch diameter. I injected pure tr. iodine into both cavities once daily. Two days later another abscess appeared on the near side chest wall; this I opened and treated in the same way as the other cavities. By this time the shoulder abscess had stopped discharging and was allowed to heal, but a slight amount of yellow sticky fluid was still oozing from the throat wound. The next day, Friday, I decided to try to prevent any more abscesses appearing, and gave ½ c.c. of staphylococcus-streptococcus bacterin. On Saturday the throat and shoulder lesions were dry and healing, whilst practically nothing was oozing from the chest wound. On Sunday all was very dry and all the swellings had gone. On Wednesday I gave a further injection, the animal now having a normal temperature and appetite. I have not yet diagnosed the condition, and should be pleased to hear any suggestions from the Fellows.

Captain DAUBNEY: I have brought some specimens which have reference to the paper read on Ascarides by Major Rees-Mogg last December.

Here are the three large strongyles of the horse, put up in gelatine; they are the *S. equinus, S. vulgaris*—this specimen also contains larvæ and was obtained from the mesenteric artery—and the *S. edentatus.*

I have also here the specimen of a liver of a pig with infestation of the *Cysticercus crassicollis*; in this case there was sudden infestation by these parasites, the young cestodes burrowing just below the surface of the liver.

Another specimen is that of fluke infestation in the liver of a sheep showing surface lesions in the early stages. The flukes burrow through the capsule of the liver after passing through the intestinal walls and peritoneum, and cause numerous breaches in the surface of the liver, with hæmorrhagic lesions.

In Wales sheep are usually brought down from the highlands, where there is little or no fluke disease, to the lowlands, where the parasite is very common, and often we get a very serious and sudden infestation. The young flukes penetrate the liver in large numbers, and cause death; in these cases there is no cirrhosis, but the abdominal cavity often contains seven or eight gallons of fluid. The young flukes are not found in the bile-ducts; only fully-grown flukes are found there, and in these cases cirrhosis is usually present.

This specimen of the *Ascaris mystax* of the cat has numerous eggs in batches; these clusters of eggs are often seen in the ascaris of snakes, but not usually in the true ascaris.

Captain KIRK then exhibited two specimens; the first, a diseased ovary taken from a mare, and the second, a tumefied gall-bladder from a dog.

The PRESIDENT: I should like to thank those Fellows who have brought these most interesting specimens, and we all shall be glad to hear any remarks the Fellows have to make about them.

Mr. J. WILLETT: I saw the two cases mentioned by Captain Kirk, and the inco-ordination of the dog's legs was very strange to see. The animal swayed to and fro when left standing. The body was very cold, but there were no clonic spasms. I put the condition down to some spinal change following on distemper, but no chorea was present.

With regard to the swelling of the jaw, the fauces were in a gelatinous state, and I thought it was erysipelas. There were further abscesses on the sternum. I think that the condition must have been caused by some foreign body, and whether Captain Kirk's vaccine injection had stopped the abscess formation or not, I am not prepared to say.

Mr. H. GRAY: The condition mentioned by Captain Kirk and Mr. Willett I think not infrequently follows distemper and chorea, and, by the symptoms expressed, it looks like infection of the bulb, in which cases we generally get a sub-normal temperature. Very frequently chorea passes into general paralysis. I have seen cases like this get well, but they are generally fatal. Some cases of chorea after distemper recover completely.

Mr. G. H. LIVESEY: With regard to the case of swelling of the jaw, I have seen similar dogs to the Pekingese, where the throat swelled up with a fluctuating swelling. No matter could be extracted, but only a glairy, sticky fluid. The sinus formed was very difficult to heal. I came to the conclusion that the fluid was colloidal, originating from the thyroid, and think that this may be the explanation of the case mentioned by Captain Kirk.

Captain KIRK: Could Mr. Livesey give any explanation why the temperature was 106?

Mr. LIVESEY: Anything interfering with the action of the thyroid gland upsets the balance of temperature.

Mr. H. L. ROBERTS: I was deeply interested in the specimen of liver which Captain Daubney handed round, and in the remarks he made as to ruminants dying from the presence of flukes of such a small size. I recollect that when there was an outbreak among sheep and other ruminants in the western part of the country, the point which attracted my attention the most was the suddenness of the deaths of the animals. I always understood that fluke disease came on slowly, and was dangerous from the anæmic condition it produced. Often on *post-mortem* the bile-ducts are found to stand out as small pipes, frequently containing flukes of the size of a quarter of an inch and upwards.

We are grateful to Captain Daubney for giving us the opportunity of seeing this specimen of liver.

Colonel WILLIAMS: With regard to the case mentioned by Captain Kirk of a dog with secondary abscesses, one occasionally sees cases in other animals of a septicæmia following a local infection, and from the symptoms described it sounds like a case of septic infection following an injury of the fauces.

I would like to ask if the teeth were all right.

In this case, also the one with obscure nervous symptoms, the necessity of carrying out microscopical and bacteriological examinations for diagnostic purposes is well shown.

Professor MACQUEEN: I should like to congratulate Captain Daubney upon his valuable contribution, and I am very pleased that he is a member of this Society, and hope he will continue to bring forward clinical subjects, which are of the utmost importance and interest to the profession.

Captain Daubney said one thing in connection with fluke in sheep which requires some explanation. Does the fluke always enter the liver through the capsule—because in many cases of fluke the capsule is intact—does it go through and shut the door, as it were? Is there any other way in which it enters the liver?

Captain DAUBNEY: Thank you very much for the remarks which you have made. I will try to answer the questions asked me.

Professor Macqueen suggests that in many cases of fluke the continuity of the capsule is not broken, I think in these cases where no obvious lesion of the capsule is present that they are old cases and the

lesions have healed, for we find large flukes in the bile-ducts. Recollect the size of the opening of the gall-duct into the intestine—could the young fluke find the small opening and crawl up it? Remember, also, that the lung fluke parasite crawls through the peritoneal cavity and diaphragm into the lung; does it not, therefore, seem reasonable that the small liver fluke should penetrate through the capsule?

The confusion in Wales was due to the suddenness of the infestation. If the sheep had been on infested land all the time, the attacks would have come on slowly, but they were in the highlands, with no chance of infection, they therefore got a bad infestation all at once, and commenced to die after five or six days.

Professor MACQUEEN: Does Captain Daubney believe that penetration of the capsule is the only mode of entering the liver? Is it not equally feasible that they entered through the bile-duct?

Captain DAUBNEY: In early cases of fluke you will only find the flukes just under the capsule. No young fluke is present in the deeper part of the liver or bile-duct; only large mature flukes are found there.

OTHER BUSINESS.

The following were nominated as Fellows of the Society:—Miss A. Cust, M.R.C.V.S., and Mr. M. Bridgeman, M.R.C.V.S.

Mr. H. L. ROBERTS brought to the notice of the Fellows the appeal to dog-owners in connection with the Commission just formed to carry out experiments in order to find a preventive for distemper in dogs. He said that he thought it an excellent idea for the medical and veterinary professions to co-operate for this object. He thought the Committee already formed a very good one, and was pleased to see that Major Hobday had a seat on it. He commended the appeal to the Society for its consideration.

Major HOBDAY said the object of the Commission was to find a prevention and a cure for that most terrible of all canine diseases, viz., distemper. No doubt the observations would have to be continued for a number of years, probably as long as those which were being made for cancer, which had already been progressing for some fifteen years. He considered this Commission a great thing for the profession, which must of necessity occupy a prominent place on it. A great deal of money would, of course, be required, and though this was not in the power of the profession to supply, they could back the appeal morally, if not financially, and, if the dog-loving public would only give them the money, the veterinary profession could find the brains.

Mr. J. WILLETT supported, and thought the Society should vote a sum of money to help.

Mr. H. GRAY opposed. Who, he asked, found the Committee? Did the Committee ask the Royal College of Veterinary Surgeons to nominate members on the Committee?

Professor MACQUEEN said he was opposed to the Society giving any support at present, as he thought they ought to know more about the origin of this investigation. He understood that the Committee was to work under the direction of the Medical Research Council, which was a Government body, and he considered that the Government should find the money. He quite agreed that the veterinary profession should have been considered as a whole, and in the circumstances he felt that they ought to think twice before committing themselves in any way. It should be referred to the Council for thorough consideration.

Colonel WILLIAMS: If the research work in connection with distemper leads to the discovery of facts which will throw light on the etiology, transmission, and prophylaxis of diseases due to filter-passing organisms, it will be of benefit not only to the veterinary profession but to the whole world. Should we, therefore, turn it down because the necessary funds for such work are being obtained by what have been referred to as begging letters in the press? If the medical profession had not been assisted by public subscriptions, they would not have been able to do the work they had done with radium, etc.

Major HOBDAY explained that the veterinary profession had by no means been put in the background, and that all the veterinary societies in the kingdom were being approached by the Committee.

The PRESIDENT said that the subject under discussion would be put on the agenda for the next meeting.

Mr. H. GRAY next read his paper on "Pyorrhœa in the Dog."

[This paper and the discussion upon it receive separate publication.—ED.]

Professor MACQUEEN proposed a hearty vote of thanks to Mr. Gray for his paper, and mentioned that he had used, for hardening the gums, a preparation which contained formalin and petrol, and had found it so excellent that he had nearly broken his rule and given a testimonial to the maker.

Mr. MCINTOSH proposed a hearty vote of thanks to the gentlemen who had brought the *post-mortem* specimens. This was endorsed by the President.

A vote of thanks to the President concluded the meeting.

Mid-West and South Wales Veterinary Association

(Continued).

DISCUSSION ON MR. SCOTT'S PAPER.

Mr. J. H. BARKER (Hereford) said that he understood that Professor Share Jones was to have opened the discussion. Having had some connection with Liverpool University, he felt it his duty, when called upon, to step into the breach. He therefore craved their indulgence while he proceeded to what was to him a difficult task. It was rendered more difficult for two reasons. Firstly, on account of the profound scientific thinking of Mr. Scott; secondly, he found himself more or less in accord with the general run of the paper. In the introduction to the paper he thought Mr. Scott treated them to an assertion, and the rest of the paper was called forth

in support of his assertion. The assertion was contained in the sentence beginning: "Nearly every disease that animal flesh is heir to has as its root cause pathogenic bacteria." He thought that assertion required some little qualification before it could be accepted.

There was another branch of life—the lower orders of animal life—which gave rise to a very great amount of disease, as opposed to the lowest order of plant life, which were bacteria.

Then, again, in Mr. Scott's choice of diseases which he called sporadic diseases, he, Mr. Barker, thought he immediately challenged criticism; for, with the possible exception of laminitis, he did not think they could be called pure sporadic diseases. Taking colic, he thought most of them looked upon colic as merely a term given to the expression of abdominal pain and not as a disease *per se*. In the two forms of colic taken, flatulent colic and spasmodic colic, Mr. Scott had worked out the etiology as being due to bacteriological processes. These bacteriological processes were, first, the enzyme formation, and following that, action upon the vegetable material already present, to produce flatulent colic; secondly, the toxins formed from the bacteria which were already present to produce spasmodic colic.

What, then, was the determining factor in producing the pain or the observed symptom? That led them to another science altogether—the science beyond bacteriology—*the third factor in disease*, and it might be that that third factor was those dietetic errors, which Mr. Scott mentioned, or over-work.

They might be sure that, one-half of the bulk of the intestinal content being composed of bacteria, Nature had provided the animal economy with protective processes. Firstly, he thought the greatest protective process was the selective action of the cells of the intestinal mucosa; secondly, they must have, if they had toxins, anti-toxins. Thirdly, not all these bacteria were harmful, some possessing inhibitory action over others. Certainly a good many of them were for their own well-being, and then, of course, the natural elimination of these products went on during peristalsis.

If they accepted these bacteriological processes as being the causes of the colic, he thought the treatment was fairly well indicated, which would be to stimulate those protective influences to further action. The finest thing, he thought, they had to stimulate these protective influences of the intestinal canal was the injection subcutaneously of arecoline, combined with the passing of the stomach tube and the introduction of saline. He thought this was capable of much further development, particularly with regard to the medicaments which could be introduced directly into the intestine.

In the paper on diarrhœa, the author referred to those diarrhœas which followed adynamic fevers; he mentioned malignant catarrhal fever, and that the source of the infective focus was removed from the intestinal canal. But he disputed that: he thought the infective focus *was* in the intestinal canal, and they only got those lesions of the head as a result of infection of the intestinal canal. Working upon that assumption, the only success he had had was by the introduction of antiseptics directly into the alimentary canal, and the ones he had used had been lysol, chloroform and turpentine.

With regard to the treatment of diarrhœa, he referred to the question of those catarrhs which gave rise to more serious symptoms, and in which cases Mr. Scott said he would use castor oil. He, the speaker, could think of nothing more futile than administering castor oil in Johne's disease, and most of those diarrhœas, when they passed out of the initial stages, were due to bacteriological causes, and the treatment should be to tackle that organism, and castor oil would not do that.

Mr. Barker referred at length to the research work taking place at the Pasteur Institute on the subject of the vaccination of local areas of the body, particularly with regard to killed cultures introduced into the intestinal canal. He thought these might give good results in Johne's disease. If they could be obtained from Mr. Scott, or from some laboratory, they would be well worth a trial.

In laminitis, the only disease Mr. Scott had chosen as an actual disease, he stated he had found organisms in the blood, but only in those cases which were secondary to parturition. It would have been more convincing if Mr. Scott had found organisms in a case of primary laminitis, and submitted those cultures to Koch's Postulates. It would then have represented a distinct advance in their science. He did not agree with blood letting in the treatment of bacteriological diseases.

He thought the best way of thanking Mr. Scott for his most excellent paper would be for it to go forward from that Association that there was a desire to establish some research institute whereby these healthy speculations of clinical observers could be fully investigated. He knew that Mr. Sumner had the subject very much at heart. Fortunately, he was President of the Royal College when Lord Lascelles took up the question of a Research Institute, and he knew that Mr. Sumner was very much in accord with Lord Lascelles over the matter, and if the Association were to show its appreciation of Mr. Scott's paper in that manner, it would be doing very much better than he could do in mere words.

Mr. W. F. Aston complimented the essayist on his paper and agreed with it in the main. In elaboration of Mr. Barker's mention of the third factor, he very briefly explained the term and theory.

"Nature made bacteria for some useful purpose," said Mr. Aston; "as an example, there is one group in the bowel which hyrolyse cellulose, thereby rendering its digestion more simple. It is a fact that half the bowel content of herbivora is made up of bodies of bacteria. Tubercle bacilli, even, have been proved to live a saprophytic and harmless existence in the body; yet the essayist condemns these bacteria and would set them at the head of all our ills. Surely if the properties of these micro-organisms were

further investigated they might be found most useful members of society.

We must look further than ascribing every trouble primarily to a bacterial cause. It is more rational to suppose that some circumstance, the third factor (we know not what) arises and upsets these bacteria, probably killing many and in the fight for life making the other bacteria, to protect themselves, pathogenic to the body and producing the diseases of which you are aware.

As an example, the quarry workers are particularly susceptible to tuberculosis. Coal miners are particularly free, the coal dust (carbon particles) being inhibitory to the development of tubercle. It was found that when coal dust was spread about the quarries that the quarry men did not contract tubercle, the carbon particles being protective to them. The stone dust (silicon) "stimulating" the organism is the third factor. The same applies to the printing trades, where every care is taken to remove the silicon dust. Silicon here is the lion which strikes the body down and the tubercle bacilli are the vultures which come along and devour. If we can find these third factors—"lions"—we shall have a better chance of preventing disease than by all the vaccines imaginable.

With regard to Mr. Scott's finding diplococci, etc., in laminitis, this would be expected in some cases. To claim these organisms as causal to laminitis is a bold statement. There are such things as Koch's Postulates, and unless some other laws are found governing these matters, the present ones must be fulfilled. No doubt Koch's Postulates are most trying to the research worker, and, as I well realise, they are a wonderful brake on "discoveries."

Mr. Scott advocates blood letting. There are many excellent reasons against this practice from a bacteriological standpoint. When blood is removed there go corpuscles (nutritive and protective) toxins and antitoxins. There is an immediate absorption of fluid in disease rich in toxin from the large body cavities, so that the patient's blood would quickly be the same in quantity, less rich in nutrition and greater in toxin, both from absorption and because of the antitoxin removed."

Mr. W. R. WATSON enquired how Mr. Scott reconciled his theory with those cases which occurred in the feet of Shetland and Exmoor ponies, where no real disease was found, and in hot weather the animal got well. He had found the same condition occurring in animals with severe laminitis in one leg, and it was his opinion that the disease was often the result of pressure from carrying too much weight.

Mr. STEVENS said that the way he had looked on these cases of bacteriological disease was that there was a continual fight going on between disease-producing organisms and corpuscles. He thought when an animal drank a very large amount of cold water it might break down the defence, and then bacteria got the upper hand, and colic, laminitis, etc., supervened.

With regard to Johne's disease, he did not think this was a simple diarrhœa, and it should not be treated with castor oil.

Mr. COLEMAN also desired to add his quota of thanks to Mr. Scott. It was unique in one way that sporadic organisms became pathogenic under certain conditions; he would like to have a little more information and proof of this taking place.

One thing interested him, and that was where Mr. Scott spoke of colic, and he (Mr. Coleman) thought he might have spoken of alimentary troubles as, as a rule, being caused by diseased food. Mr. Coleman remarked upon the prevalence of alimentary troubles during the period before the war and its decrease at the time when compound feeding cakes were almost unobtainable; but the troubles were now recurring, though happily not quite to the same extent. He thanked Mr. Scott for putting forward a paper which brought out a practically new theory.

Mr. Coleman also spoke on the subject of research work and its value to the community.

Major F. J. TAYLOR said that Mr. Scott had put up a splendid case for his bacteriological school. He referred to his personal experience with alimentary trouble (operation and cure after appendicitis and removal of a duodenal ulcer) when he was informed by his medical attendants that the duodenal ulcer was the cause of his appendicitis and also of the colic.

He thought the theory was going to be the future therapy of the profession. He asked for information as to the easy preparation of vaccines.

He had eradicated outbreaks of colic from a large stud of horses by the provision of a plentiful and constant supply of water; until this had been installed, colic cases were numerous, afterwards they were very rare.

Mr. MOORE remarked that he thought the chief cause of colic was overwork. After the passing of the Eight Hours Act, it became a very rare thing indeed in his experience in collieries.

The CHAIRMAN corroborated this statement from his own experience.

Mr. ADAMS thought the cause of colic was often idleness, and he regarded the water theory as remarkable.

Mr. WATSON said that a free supply of water had proved efficacious in cases of colic with which he had come in contact.

In Johne's disease he had had some good results from the use of 1½ drachms of pure sulphuric acid in an 8 oz. bottle, given in 16 doses, and he intended to give 60 minims in the next case, in its early stages.

Mr. R. W. HALL informed the meeting that he looked upon arecolin and similar hypodermic injections as one of the sheet anchors as far as the treatment of colic was concerned. He was satisfied that the recoveries from colic were now a great number more than before they had been introduced. He could not conceive of the elimination of toxins, but favoured the giving of a drug to eliminate from the bowel something which was causing the pain.

With regard to arsenical poisoning, he agreed that gastro-enteritis was caused by absorption through

the skin, and instanced a case in which a large number of sheep being dipped, 45 out of that number died from arsenical poisoning, and in no case could he find any excoriation of the mouth or lip lesions; all the lesions he could find were in the gastro-intestinal canal. It was possible to render the bowel sterile, but with ninety feet of bowel and ninety feet of content he could not imagine that anything given by the mouth, except quantities of saline solution, could sterilise the contents of the bowel, and to inject half a gallon of fluid subcutaneously was an operation which he would not like to attempt.

Professor WALKER HALL expressed his pleasure at being present for the first time, and for the honour that had been done to him in making hiim an honorary member.

He said that many of the views expressed had aroused interest in his mind. Mr. Barker, who had opened the discussion with such clarity and discernment, had referred to a third factor which was essential in the development of colic, and which produced pain. It seemed to him from those remarks, and from many heard that afternoon, that pain was looked upon as something which could be caused by bacteria. Pain was not due to masses of bacteria. It was caused by distension of the muscular parts of the intestine. At certain points (seven or eight) there were well defined neuro-muscular nodes. When these were affected, distension might occur in the internodal areas and pain followed.

In cases of pain, therefore, we had to go back to the neuro-muscular parts and ascertain what it was that was damaging them. Neural tissues were sensitive to toxins and reflex stimuli, and these possibilities suggested lines for enquiry into the underlying factors.

He felt that another point was not quite clear, although Mr. Barker possibly had it clearly in his mind, and that was with regard to the intestinal canal as a whole. The whole canal being developed from a single tube, was in sympathy throughout its whole length: any lesion in one part was reflected in another part; one could not fix one's attention to one area alone: the entire tract must be surveyed as a whole.

With regard to vaccines, one or two speakers led him to understand that a vaccine was a remedy that could be used as an immediate curative agent vaguely due to some property inherent in the bacteria.

Let them close down the subject of vaccines *per se* just for a moment, and allow him to lead their minds to fundamentals. When tissues were exposed to injury, there followed a response directed to the removal of the noxious body, to the neutralisation of the poison and to the re-assembling of normal changes.

If the disease went on until the injury and the response were somewhat balanced, then the daily variations were insufficient to terminate the infection and a stalemate or chronic infection followed.

This was a stage when they, as professional observers, could step in and assist the tissues to destroy the injury. Now, one of the means by which that stimulation could be brought about was by the use of "a bit of the hair of the dog that bit him"—taking the same particular protein or chemical substance that caused the injury and directly stimulating the disease by that means. The vaccine was the whip or spur to make the tissues themselves so increase their resistance or power of response, that they were able to overcome the injury. Reflection compelled one to realise that this was the only stage at which the use of vaccines as a therapeutic measure was permissible.

The whole question, however, was bound up with problems of immunity: problems which called for new observations and enquiry. Many of these offered opportunities for those engaged in general practice, but naturally also involved technical work in well equipped laboratories.

As this vaccine therapy promised much in the future, there ought to be established such means as would enable practitioners within limited areas to have recourse to a central Institution. Each county should aim therefore, at establishing a place where material and problems could be referred for elucidation.

He wanted to suggest that the Association might easily consider, as a plank in the profession, the teaching of first aid to people, and through that teaching, that they might take the opportunity of showing the dangers inherent in old-time cures and folk-lore remedies. If such an arrangement were taken up by leading agriculturalists it would be easy to bring before people the economies of early diagnosis; their cases would be saved for them by prompt early action. To disperse the gloom of half truths was an aim well worthy of their consideration. The task would mean great efforts, but it would have to be attempted and completed if the country was to remain a truly great nation.

Then there had been mentioned the point of research and it was a very great satisfaction to hear them in full agreement with the suggestion of the need for continued research. If they would examine the discoveries made in this country they would find that many of the most fundamental discoveries had come from the cottage and the hearth, while in human and comparative pathology there were instances of accurate observations by general practitioners which had changed the viewpoints of centuries.

Suppose they made a start themselves and commenced a fund for research, and made a point of obtaining subscriptions from landowners, etc., as well as from their members. They could then make grants to those practitioners who would undertake investigations.

By such a step they would show an admirable individualism and an earnest of great expectations.

In Sheffield the local Association of medical men had contributed large sums for the purposes of research in their own areas. To establish a fund for research, as well as for benevolent purposes, would be to help themselves as well as others, while the

satisfaction they would get out of it would be an early foretaste of subsequent benefits.

Mr. ADAMS replying to Professor Walker Hall, remarked that the Professor had missed the point regarding tuberculin entirely. The difference between the Veterinary Profession and the Medical was that there was no certificate of death necessary in the former, which was based on commercialism.

THE REPLY.

Mr. SCOTT, replying, said that the conclusion had been forced upon him that both the writer of the paper and the readers and those who had discussed it were in the same boat—mariners on an uncharted sea, and that too, he feared, often without a compass. He wondered, if they kept an accurate record of all their cases for one twelvemonth, in how many instances would they note the following: Aetiology, unknown; diagnosis, doubtful; prognosis, uncertain; therapeutics, empirical; *post mortem*, a revelation—as disconcerting and as profound, perhaps, as that which met the eyes of those who peered into Tutankhamen's tomb in the Valley of Kings.

Putting that aside, however, he did not wish that their clients should be instructed in these ideas; nevertheless, they must confess that in these diseases and even in elemental diseases they knew very little. Mr. Barker called him to task for defining colic as a *sporadic* disease. If colic was not a sporadic condition, what did the word sporadic really mean? He thought his diploma dated a little further back than Mr. Barker's, which might account for a somewhat different interpretation of the word.

Mr. Barker appeared to place too much reliance upon those potent alkaloids arecoline and physostygmine. The therapeutic value of those drugs was too uncertain and their action too drastic for routine practice, and further, practitioners, by using such remedies, failed to emulate nature's principles of treatment save under special conditions.

Diarrhœa was a disease in which Mr. Barker alluded to the infective processes as originating primarily in the gastro-intestinal canal. Undoubtedly this was so, but there were many cases seen in practice in which the infective causes culminating in diarrhœa had their origin entirely removed from the digestive system.

The question of castor oil had been raised and had Mr. Barker read the paragraph carefully, he would have seen that he, Mr. Scott, did not state that castor oil could cure Johne's disease, but what he did say was that the oil possessed emollient and antiseptic properties which were beneficial in non-specific diarrhœa, and by reason of these properties it was to be strongly recommended—but as to the drug possessing specific action, it was absurd to suggest it.

As regarded laminitis, the question of the bacteriological element had been thrown across the field. He was bound to admit that one saw, in practice, mechanical entities as a cause pure and simple, but to exclude the bacteriological content was decidedly wrong. Someone had to bring in new ideas and that was one object he had in view in bringing forward his paper.

Regarding bleeding, he knew it was unorthodox because it was out of date. In the old days, surgeons used to bleed for practically everything and the procedure fell into disrepute largely because of the fact that it was overdone. In his opinion, there was no drug in the whole B.P.that could take the place of the judicious letting of blood in the cases, particularly, where the heart was gorged with blood and its action laboured. In those cases where the pulse was full and bounding, rapid bleeding in considerable quantity was found beneficial.

In regard to Mr. Watson's suggestion of using sulphuric acid in Johne's disease, he considered there was no chemical preparation capable of destroying the germs in the mucosa in the advanced stages. The sulphuric acid might be helpful in the earliest indications of the disease.

Replying to Mr. Coleman's query, there was no doubt that a large number of bacteria, which under favourable circumstances, became parasitic, led a saprophytic existence inside and outside the animal body. He did not agree with Mr. Coleman's observation, however, as to the fallacy of laboratory experiments, and, he asked, where would medical science be to-day, were there no laboratory workers in the past? He thought blood cultures and microscopical examinations were not beyond the general practitioner. In many instances, with a good microscope, he could easily detect the organisms with which he was dealing. Further, he could, if he liked to be enthusiastic, prepare his own cultures and use his own vaccines.

Mr. Hall had expressed alarm at injecting subcutaneously over the shoulder 4 to 8 pints of normal saline solution, but he, Mr. Scott, could assure him, after using the treatment in a very large number of cases for many years, that he had never observed any after ill effects. In fact, he looked upon this method of treatment as of such value as to justify its use in almost every disease.

He confessed it was not practicable absolutely to sterilise the bowel content, but there was an agent largely used now, which gave excellent results, *i.e.*, Dimol. It had been proved in its action to be 30 times more potent than carbolic acid and had the great advantage of not being absorbed as it passed through the alimentary canal, and in this way materially reduced the bowel bacterial content.

In conclusion, he would like to say how very pleased they all were to have Professor Walker Hall with them that day, as the Association's most recent honorary member.

The PRESIDENT, in a few well chosen words on behalf of the Association, also extended their very warmest thanks to Professor Walker Hall for his interesting remarks.

Major TAYLOR related a case of hernia (already reported) in a Pekinese bitch.

A hearty vote of thanks to the essayist was proposed by Mr. HEWER, seconded by Mr. J. J. AVESTON, supported by the President and carried with acclamation.

J. J. AVESTON, *Hon. Secretary.*

Notes and News.

The Editor will be glad to receive items of professional interest in these columns.

National Veterinary Medical Association.

DIARY OF EVENTS.

March 12th—N.V.M.A. Editorial Committee Meeting at 12 Buckingham Palace Road, London.
March 14th—N.V.M.A. Committee Meetings at 12 Buckingham Palace Road, London:—Biological, 2 p.m.; Finance and Advisory, 4 p.m.; Special Fees Committee (Milk and Dairies Bill, 1922), 4-30 p.m.
March 19th—N.V.M.A. Editorial Committee Meeting.
March 23rd—Applications for Examinerships to be lodged at R.C.V.S.
March 29th—Notices of R.C.V.S. Council Meetings issued.
March 30th—Good Friday.
March 31st—End of R.C.V.S. Financial Year. Educational and Birth certificates to be sent to R.C.V.S. for candidates taking first year's Examination in July.

Attention is especially drawn to the announcement of the meeting of the Special Fees Committee on March 14th at 4-30 p.m. It is trusted that all delegates who have been appointed by their Associations will make every effort to attend. Only a few names of representatives have so far reached the General Secretary, but a notice has been sent out to every delegate whose appointment is known.

GOVERNMENT GRANT TO ROYAL (DICK) COLLEGE.

At a meeting of the Governors of the Royal (Dick) Veterinary College, it was intimated that the Secretary for Scotland, through the Board of Agriculture, had agreed to meet obligations of the College, and to provide an annual sum to meet the financial deficit in future between income and expenditure.

PERSONAL.

Marriage.—On March 1st, at the British Consulate, Port Said, Captain H. J. Allen, M.R.C.V.S. (late R.A.V.C.), "Chef du Poste Quarantenaire," Ismailia, Egypt, son of Mr. and Mrs. T. Allen, "Garthorpe," Barrington Road, Leicester, to Norah Spawton, eldest daughter of Mr. George Spawton Catlow, of Leicester. (By Wireless.)

SOUTH AFRICAN CATTLE.

Sir Robert Sanders, in a written reply to Lieutenant-Colonel A. Murray, says that the British Government has informed the Government of the Union of South Africa that if the question of removing the restrictions regarding the importation of cattle from the Union (and from the other Dominions concerned) is raised at the next Imperial Conference and a mutually satisfactory arrangement reached, legislation will be introduced to give effect to such arrangements.

Obituary.

ABELL, J. T., 1 Bramble Street, Derby. Graduated London, 11th April, 1888. Died 16th February, 1923. Aged 68.

CUTTING, Henry, Landseer Avenue, Bramley, Leeds. Graduated London, 16th December, 1857. Died 2nd March, 1923. Aged 86.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

The Indian Civil Veterinary Department.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Mr. Leese, in his letter dated December 16th, 1922, on the above subject, hardly does justice, I think, to the officers who are fighting hard for their status. He appears to think they are fighting a lost cause and should "quit." This is hardly the spirit that animates the average Englishman in the Colonies. Why should they quit? They entered a Department offering prospects, and why should they not make a united stand to uphold the profession in India, reasonably hoping that their cause would receive help from home?

There is too much tendency in the profession to regard the ventilation of legitimate grievances as "grousing" by those who are not living under the grievous conditions, who are probably quite comfortable themselves. Supposing every officer who had a grievance took Mr. Leese's advice and quitted his job, who is going to carry on? Moreover, in a profession like ours, where cohesion seems to be a *rara avis*, we should soon be ousted by those who are unqualified. Unless the present officers of the department have lucrative appointments in view, they would be cutting off their noses to spite their faces in taking Mr. Leese's advice.

Provided the grievance is a legitimate one, the more it is ventilated the more likelihood is there of obtaining redress. Naturally the officers concerned expect help from their governing body, and if everybody pulls together there seems no reason why success should not crown their efforts.

Personally, I say all honour to the I.C.V.D., who are sticking to their posts under most trying conditions and endeavouring to enlist the sympathy of a profession apparently too lethargic to take any interest. They have got an uphill job; they are not the only ones; but with a legitimate grievance and some help from home they should, in time, pull through. It must, however, be a case of all pull together—there must be no quitting. If the profession at home are content to look on passively and characterise every legitimate grievance as a "grouse," the Colonial Veterinary Services will remain in the slough of despond, to which, in many cases, they have sunk in spite of the efforts that those on the spot have made to restore lost prestige.

Mr. Leese's contributions to veterinary science hardly point to his having been one of the "quitting" sort up to now, although, in common with others, he has probably done his share of "grousing" during his I.C.V.D. Service. But he must remember that young and ambitious members of the profession have to get a living, and Colonial Service offers many attractions to such a man, apart from drawbacks.

How is success accomplished in any walk of life? Certainly not by "quitting," but rather by the application of *Vis Unita Fortior*—a motto applicable in a broad sense to every walk of life, and which, if acted up to, has been shown to be the power behind the gun; in its narrow sense it is applicable to the profession which has adopted it and failed so lamentably to act up to it.

If there is any "quitting" to be done, it is on the part of those who fail to act up to the motto. Isolated and individual effort in Colonial Veterinary reconstruction is very little use. What we want is "team work"; if we can get that we ought to forge ahead, if not, we can hardly hope to progress.

A new dawn has appeared on our cloudy horizon in the newly-constituted Committee of the N.V.M.A., and no doubt the I.C.V.D. are turning longing eyes towards it. The Committee will receive every assistance from Colonial Veterinary Departments, which should materially assist them in advising intending candidates and at the same time do much to remedy some of the present conditions of service in those Services in which it is needed; but they must be sufficiently broad minded to understand that a legitimate grievance is not a "grouse."—Yours faithfully,

HENRY G. SIMPSON, F.R.C.V.S.
Penang, *January 26th*, 1923.

"Forced Extraction."

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In reference to the article "Some Parturition Problems," by Mr. E. P. Edwards, M.R.C.V.S., in your current issue, after first complimenting Mr. Edwards on what is, to my mind, a most readable and instructive paper, I would crave the indulgence of your columns to clear up a little matter which Mr. Edwards has rendered somewhat ambiguous.

I can see that it is unintentional, but, even when read with extreme care, Mr. Edwards' article makes me responsible for advocating the method of "forced extraction" in the case of the calf with the two fore-limbs presented, but with the head deviated. In the article of mine to which Mr. Edwards refers I certainly did not advise this. On the contrary, I was at pains to point out that the practice should be condemned. Put shortly, the build of the calf's neck and head forbids it.

But the case of the foal similarly presented is in quite a different category. Anatomical reasons alone, as I explained in the above-mentioned article, show forced extraction in this instance to be a method not nearly so formidable nor so ***"barbarous"*** as one would suppose. Moreover, practice bears this out.

As a matter of fact, I think that Mr. Edwards is hardly fair in using the word "barbarous" in this connection, and would ask him to remember that not only the knife is to be classed as a surgical instrument. The cords, ropes, and the pulley-blocks are equally such—used, of course, with intelligence. In such a case as we are discussing the question the responsible veterinary surgeon is called upon to decide is this: Is it better for the mare to endure the short, sharp pains of the few minutes of forced extraction, or to be the subject of the exhaustion consequent upon a prolonged embryotomy, to say nothing of the sequelæ likely to arise therefrom?

There is an old Latin tag which, translated, runs—"*So many men, so many opinions.*" Applicably to this argument it might be paraphrased thus—*So many practitioners, so many methods.* It is possible, in fact, that both Mr. Edwards and myself may be right, each adopting his own method according to his light intelligently and carefully.

With the whole of this matter I should like to have dealt more fully, but am in the midst of a rush of work which makes it impossible.—Yours faithfully,

Red Lion Street, H. CAULTON REEKS, F.R.C.V.S.
Spalding, *February 26th*, 1923.

The Edinburgh Centenary—Portraits Wanted.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In connection with the preparation of a history of this College, I have been, so far, unable to secure portraits of two former Principals, namely, J. H. B. Hallen (1866-67) and William Fearnley (1873-74). If any of your readers can help me in this respect, I shall be very grateful.

I need hardly say that anything in the shape of letters, photographs, newspaper cuttings, etc., that have any bearing whatsoever on the history of the College would also be most gratefully received. Nothing should be regarded as incapable of throwing light upon points that may be obscure. One of my main difficulties has been to obtain illuminating *details*.—Yours faithfully,

O. CHARNOCK BRADLEY.
Royal (Dick) Veterinary College,
Edinburgh, *20th February*, 1923.

An Annual Oration.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I have often wondered why the Veterinary Profession has not followed the lead of the Medical Profession in immortalizing and keeping green the memory of our great men who, before crossing the bar, made history. Such a portrayal might take the form of a yearly oration on some such giant as our calling boasts, for this would go a long way to remind those of us who are established of the debt we owe to those pioneers who conquered difficulties, who converted failures into successes, who probed daily into the mysteries of disease, all for the unselfish purpose of leaving a smoother path for us to tread.

To the younger men and fresh entrants the oration would stand out as a beacon to lighten their darkness. Ample indeed is the material at our disposal. To name a few—Coleman, Spooner, Dick, Williams, McCall, Brown, Walley, Sewell, Prichard, Axe, and Fleming.

As this year marks the Centenary of the Edinburgh College, I would suggest a beginning could be made by eulogising the memory of the man who laid the foundation of that great School of the North, the immortal William Dick.—I am, Sir, yours faithfully, W. SCOTT.

The Laboratory, Friarn House,
Bridgwater.

The Tuberculin Test.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Professor Wooldridge is startled that I do not advocate the taking of temperatures at the 6th and 9th hours; but doubtless his advice to veterinary surgeons will supply the proper corrective to such misguided opinions, which tend to undermine the confidence merited by the proper use of tuberculin. *What* is the proper use of tuberculin? No one can lay down a standard method for any test when dealing with complicated animal structures.

A sudden rise and fall of temperature with no other clinical evidence is misleading, but a slowly rising temperature, reaching the zenith about the 15th hour, can be interpreted fairly accurately. I have no objection to anyone taking the temperatures at the 6th or 9th hour or every hour after injection. My point is that the tuberculin test has been long enough in operation now for a consensus of opinion to be formed as to the *most reliable* hours to take the temperatures. The Temperature Chart Scheme, as laid down by the Ministry of Health, will be expensive in operation and impracticable, and will defeat its own ends.—Yours faithfully, J. FORBES.

Truro,
February 21st, 1923.

The Editor begs to acknowledge the receipt of the following:—Communications from Major G. W. Dunkin, Messrs. J. Ewing Johnston, J. Malcolm Armfield, and J. C. Davidson.

Army Veterinary Service.

LONDON GAZETTE—WAR OFFICE—TERRITORIAL ARMY.

March 2nd—Capt. T. Grahame, late R.A.V.C., to be Capt., with prec. as from February 6th, 1918 (March 3rd).

Diseases of Animals Acts, 1894 to 1914. Summary of Returns.

Period.	Rabies. Cases Confirmed. Dogs.	Rabies. Cases Confirmed. Other Animals.	Anthrax. Outbreaks confirmed.	Anthrax. Animals attacked.	Foot-and-Mouth Disease. Outbreaks confirmed.	Foot-and-Mouth Disease. Animals slaught'd as diseased or exposed to infection.	Glanders (including Farcy).* Outbreaks reported by the Local Authorities.	Glanders (including Farcy).* Animals attacked.	Parasitic Mange.* Outbreaks reported by the Local Authorities.	Parasitic Mange.* Animals attacked.	Sheep Scab. Outbreaks reported by the Local Authorities.	Swine Fever. Outbreaks confirmed.	Swine Fever. Swine slaughtered as diseased or exposed to infection
GT. BRITAIN.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Week ended 24th Feb., 1923	...	...	16	17	1	38	...	...	30	47	18	30	14
Corresponding Week in 1922	...	...	17	24	114	10282	...	...	26	10	21	30	7
Corresponding Week in 1921	...	...	14	18	...	...	...	...	81	125	26	23	4
Corresponding Week in 1920	1	...	7	9	5	178	1	1	137	225	17	46	9
Total for 8 weeks, 1923 ...	...	...	119	126	4	223	1	1	254	385	223	284	94
Corresponding period in 1922	...	...	95	107	880	40117	..	...	358	562	286	217	77
Corresponding period in 1921	13	1	116	141	23	2209	2	4	733	1183	258	195	44
Corresponding period in 1920	3	...	75	96	35	1984	8	15	1273	2345	194	350	123

NOTE.—The figures for the current year are approximate only. *Excluding outbreaks in Army horses.

BOTULISM

is the term applied to an intoxication produced by the toxin of Bacillus Botulinus, Types A and B. The symptom-complex of botulinus poisoning in domestic animals is identical with a number of conditions frequently observed in horses, cattle, sheep, and often referred to as

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Forage Poisoning
Blind Staggers
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